

Notice of Allowability

Application No.

09/703,338

Examiner

KHAI TRAN

Applicant(s)

MUELLER ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Request for Continued Examiner (RCE) filed 8/18/2004.
2. ☒ The allowed claim(s) is/are 1-58.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 5/18/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

REASONS FOR ALLOWANCE

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 5/18/2004 has been entered.

Allowable Subject Matter

2. Claims 1-58 are allowed

3. The following is an examiner's statement of reasons for allowance: none of the prior art of the record discloses or suggests a method for initiating communication between a first modem and a second modem, the method comprising the steps of: applying at a first modem a predetermined algorithm to dynamically generate a sequence of samples representing an analog answer tone signal, encoding at the first modem the samples of the sequence, to generate a sequence of codewords, and providing the sequence of codewords for transmission to the second modem, whereby the second modem may receive the codewords of the sequence and interpret the sequence of codewords to represent an analog answer tone signal as recited in claims 1, 44, 49.

Claim 16, none of the prior art of the record discloses or suggests a method for

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starting communication between a first modem and a second modem, the method comprising the steps of: for each received sample, (i) applying a predetermined algorithm to dynamically generate a corresponding expected sample, (ii) comparing the expected sample to the received sample, and (iii) computing an error between the expected sample and the received sample; comparing an overall error value using the computed error value between the expected samples and the received samples, and if the overall error value is less than a predetermined threshold value, deciding to perform the shortened training sequence, whereby the shortened training sequence may then be performed.

Claim 30, none of the prior art of the record discloses or suggests a network device employing a training sequence to start communication, the network comprising: a first set of machine language instructions stored in the data storage medium and executable the processor to dynamically generate a first set of codewords representing an analog answer tone signal.

Claims 56-58, none of the prior art of the record discloses or suggests a method comprising the steps of: generating a sequence of sample values by applying an algorithm comprising: generating a sequence of sample values by applying an algorithm comprising:

$$x_k = \text{Round}\{scl \times \sqrt{x} \cos(2\pi k \times 79/301 + 0.25 \times \pi/301) + 0.5\}$$
, wherein $k = 0, 1, 2, \dots, 300$, and wherein scl is a scaling value;

encoding the sample values of the sequence so as to produce a sequence of codewords.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chu (U.S. Pat. 6,421,375) discloses a method and apparatus for transmitting control signals in a data communication system having a fully digital communication channel.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAH TRAN whose telephone number is (571) 272-3019. The examiner can normally be reached on 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAY PATEL can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



KHAI TRAN
Primary Examiner
Art Unit 2611

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April 26, 2006